

2/2 026

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102918

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MAJORITY OF PATIENTS WITH ISCHEMIC CARDIAC DISEASE SHOWED AN INCREASED TONUS OF LARGE AND MEDIUM SIZED ARTERIAL TRUNKS AS WELL AS OF THE SYSTEM OF ARTERIOLES AND FINEST VESSELS. DISTURBANCES OF THE REGIONAL CEREBRAL BLOOD CIRCULATION HAVE ALSO BEEN FOUND. THE PATHOLOGICAL CHANGES OF THE PERIPHERAL CIRCULATION ARE APPARENTLY CAUSED BY ATHEROSCLEROTIC CHANGES OF THE BLOOD VESSELS AND THEIR FUNCTIONAL SPASM. IT IS CONCLUDED THAT IN ISCHEMIC CARDIAC DISEASE ONE FINDS ATHEROSCLEROTICALLY INDUCED FUNCTIONAL DISORDERS NOT ONLY OF THE CORONARY ARTERIES BUT ALSO OF OTHER PARTS OF THE ARTERIAL SYSTEM, SIGNIFICANTLY INFLUENCING THE CLINICAL MANIFESTATIONS AND COURSE OF THE MAIN DISEASE.

UNCLASSIFIED

USSR

UDC 621.373.531(088.8)

M
MOSIN, L. S.

"Pulse Generator"

USSR Author's Certificate No 250988, Filed 14 Nov 67, Published 30 Jan 70
(from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9G244P)

Translation: This author's certificate introduces a transistorized pulse generator executed according to a bridge circuit the arms of which are formed by resistance-capacitance circuits. Switches made of transistors of different conductance are included in the diagonals, and the arms are formed of resistance-capacitance circuits where the resistor of one of the circuits is shunted by a semiconductor diode. In order to improve the stability of the generated pulse frequency, an EMF source is included in series with the resistor of the other circuit. One pole of the power supply is connected directly to the same pole of the generator power supply, and the other pole is connected via a resistor to the base of the transistor and to the second pole of the power supply. A semiconductor diode can be used as the EMF source.

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JPMS: 60367
25 October 1973

UDC: 615.361.341.014.41.07:611.151-086.3
ELECTRON MICROSCOPIC INVESTIGATION OF TRANSPLANT VESSELS IN SMALL INTESTINE
XENOTRANSPLANTATION

Article by A.I. Izrael, I.D. Kirpichovskiy, V.A. Rubov, N.I. Kuznetsov, First Moscow Medical Institute, I.M. Sechenov, People's Friendship University, Moscow, and Laboratory of Organ and Tissue Transplantation, USSR Academy of Medical Sciences, Moscow; Herzen, Vostok Akademiya Meditsinskikh Nauk SSSR, Leningrad, No 9, 1973, pp 81-84

In recent years, there has been considerable increase in interest in the mechanism of organ rejection involving sharply different species. The mechanism of organ rejection has been investigated on models of many organs: kidneys (V.N. Molodtsova and I.V. Monastirskiy; P. P. Rosenfeld et al., 1969, 1971), liver (R.N. Kozlovskiy; P. P. Rosenfeld et al., 1969, 1971), heart (R.N. Kozlovskiy et al., 1971a), skin (D.K. Kozlovskiy et al., 1971b), etc. Incompatibility in different organs. He undertook an electron microscopic study of intramural vessels of the small intestine of the calf, with extra-vascular connection of an intestinal segment to the femoral vessels of a dog. He did not encounter similar work in the literature.

We examined the vessels in the case of autotransplantation and xenotransplantation of a small-intestinal segment. The experimental techniques were described by I.D. Kirpichovskiy et al. For xenotransplantation (four experiments), the material was sampled at the following times: at the end of the operation, after 7, 15, 20, 30, 45, and 55 minutes; in control experiments (five) with autotransplantation: at the end and 6 hours after connection to the small intestine to the femoral vessels. In all, we performed nine experiments involving 23 examinations. The material was fixed according to Conlfield and imbedded in epon. We prepared, for ultrathin sectioning, sections 1-2 microns in thickness, stained them with uranyl acetate, and examined them under a lamp microscope. Ultrathin sections were viewed using an EM-100V electron microscope.

After connecting a segment of the calf's small intestine to the dog, we observed severe, local circulatory disorders in the transplant, leading to spontaneous arrest of circulation within 30-35 minutes. As a rule, the

1/2 008
UNCLASSIFIED
TITLE--CUPOLA FUEL FROM LEAN COALS FROM THE KUZNETSK BASIN -U-
PROCESSING DATE--02OCT70
AUTHOR--(05)--RYABICHENKO, A.D., DINEL, V.M., MOSIN, S.V., LEVDIN, V.P.,
MANUKHOV, A.V.
COUNTRY OF INFO--USSR
SOURCE--LITEINOE PROIZVOD. 1970, (1) 38-9
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--COAL, SULFUR, COKE, CAST IRON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0111
STEP NO--UR/0128/70/000/001/0038/0039
CIRC ACCESSION NO--AP0102201
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--02JCT70

CIRC ACCESSION NO--AP0102201

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COKE MADE BY SLOW HEATING OF THE
TITLE COAL TO 1000DEGREES WAS EVALUATED IN A CUPOLA FURNACE. IT
PRODUCED AN INCREASE IN GAS PERMEABILITY OF THE CHARGE, AND INCREASE IN
GAS PERMEABILITY OF THE CHARGE, AN INCREASE IN THE GAS TEMP., A DECREASE
IN THE CO-CO SUB2, AN IMPROVED HEAT EXCHANGE, A HIGHER METAL TEMP., AND
A LOWER S CONTENT IN THE PRODUCT.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--CHROMATOGRAPHY OF NATIVE AND GAMMA IRRADIATED LYSOZYMES ON DENSE
GELS -U-
AUTHOR--(02)-MAKSIMOV, V.I., MOSIN, V.A. *M*
COUNTRY OF INFO--USSR
SOURCE--J. CHROMATOGR., 47: 361-8, 31 MAR 1970
DATE PUBLISHED--31MAR70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CHROMATOGRAPHY, GAMMA IRRADIATION, PROTEIN, ENZYME, GEL

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/0496 STEP NO--NE/0000/70/047/000/0361/0368
CIRC ACCESSION NO--AP0117730
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0117730

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CHROMATOGRAPHIC METHOD HAS BEEN DEVELOPED FOR THE ISOLATION OF THE MOST HEAVILY DAMAGED PART (FRACTION 1) OF GAMMA IRRADIATED LYSOZYME. THIS METHOD CUTS SECONDARY CHANGES OF PROTEIN STRUCTURE OCCURRING AFTER IRRADIATION TO A MINIMUM. THE CHROMATOGRAPHY OF NATIVE AND GAMMA IRRADIATED LYSOZYMES ON GELS OF HIGH DENSITY (SEPHADEX G-25, BIO GELS P-6 AND P-10) WAS INVESTIGATED AND THE CHARACTERISTICS OF CHROMATOGRAPHY ESTABLISHED, VIZ., 2 TYPES OF ADSORPTION, RELATIVE LARGE CAPACITY OF ADSORPTION, CONCENTRATION DEPENDENCE FOR ELUTION VOLUMES, ZONAL ASYMMETRY, AND THE EXISTENCE OF JOHNSON OGSTON EFFECT. IT IS SUGGESTED THAT THE CHROMATOGRAPHIC ANOMALIES OF LYSOZYMES ARE DUE TO THE OSMOTIC PRESSURE OF ITS SOLUTIONS WHICH WOULD REACH A LARGE VALUE OWING TO THE DONNAN EFFECT. CHROMATOGRAPHY OF IRRADIATED AND THERMALLY DENATURED LYSOZYMES ON SEPHADEX G-75 AS COMPARED TO THAT ON SEPHADEX G-25 SHOWED SHARP DIFFERENCES. FACILITY: INST. OF ORGANIC CHEMISTRY, MOSCOW.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--HYPOPHYSIS ADRENAL SYSTEM IN PEPTIC ULCER -U-
AUTHOR--MOSIN, V.I. *m*
COUNTRY OF INFO--USSR
SOURCE--KLIN MED 47(4): 37-43. ILLUS. 1969
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ADRENAL CORTEX, CORTICOSTEROID, DIGESTIVE SYSTEM DISEASE,
SECRETION, DUODENUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1985/1650 STEP NO--UR/0497/69/047/004/0037/0043
CIRC ACCESSION NO--AP0101705
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0101705

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPONTANEOUS EXCRETION OF 17 HYDRO OXYCORTICOSTEROIDS AND THE RESPONSE REACTION OF THE ADRENAL CORTEX WERE STUDIED IN 140 PATIENTS SUFFERING FROM PEPTIC ULCER. SEVERAL VARIANTS OF DISTURBANCES IN THE HYPOPHYSIS, ADRENAL CORTEX SYSTEM WERE ESTABLISHED. THE DEPTH OF PATHOLOGICAL SHIFTS IN THE ADRENAL CORTEX ACTIVITY ESSENTIALLY DEPENDS ON THE DURATION, FREQUENCY AND SEVERITY OF THE DISEASE. WHEN THE ULCER IS LOCATED IN THE STOMACH THERE ARE NOTED MORE PROFOUND AND PERSISTENT DISORDERS OF THE ADRENAL FUNCTION THAN IN DUODENAL ULCER. DYSFUNCTION OF THE HYPOPHYSIS ADRENAL SYSTEM AGGRAVATES DISORDERS OF GASTRIC SECRETION AND LEADS TO DYSTROPHIC CHANGES IN THE GASTRODUODENAL SYSTEM WHICH DETERIORATES DURING THE COURSE OF THE DISEASE. FACILITY: LENINGRAD SANIT. HYG. MED. INST., LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 615.31:547.75

3

PREOBRAZHENSKAYA, M. N., ORLOVA, L. M., LIBERMAN, S. S., KOSINA, G. S.,
AVRAMENKO, V. G., SOROKINA, N. P., and SUVOROV, N. N., All Union Scientific
Chemical-Pharmaceutical Research Institute imeni S. Ordzhonikidze, Moscow

"Synthesis and Investigation of Pharmacological Activity of the Indole
Series Hydroxyketones"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 6, No 1, Jan 72, pp 32-38

Abstract: 10 g of 3-chloroacetylindole (I) in 300 ml dimethylformamide is added to 18.3 g molten potassium acetate, the mixture is stirred at 60-70°, filtered, and evaporated. The residue is recrystallized from water yielding 44% of 3-acetoxyacetylindole (II), m.p. 139-140°. Analogously a series of other 3- α -acetoxyacetylindoles is obtained. To synthesize 3-benzoylhydroxyacetylindole (III), m.p. 187-189°, an analogous procedure was used employing potassium benzoate instead of the acetate. When (II) was heated with 2% NaOH solution, it hydrolyzed easily yielding 3-hydroxyacetylindole (IV), m.p. 167-169°. 5-Acetoxyacetylindole, m.p. 123-124.5° was obtained similarly to (II) starting from 5-hydroxyacetylindole, m.p. 177-179°. In each group several representative compounds were synthesized using reported reactions. 3-Hydroxyacetylindole was found to have neurotropic activity; modifications in its structure as a rule led to a lower biological activity.

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USSR

UDC 669.14.018.29-414

GOL'DSHTEYN, M. I., BLYUM, E. E., GRIN', A. V., SELETKOV, A. I., LITVINENKO, D. A., LEYKIN, I. M., RUDCHENKO, A. V., OREL, E. I., VAYNTRAUB, S. S., LOKTIONOV, P. Ya., LASHCHEV, V. Ya., MOSIOSHVILI, V. V., MIROSHNICHENKO, S. I., and KONDRASHOV, M. M., Ural Scientific Research Institute of Ferrous Metals, Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin, and Kommunarsk Metallurgical Plant

"Adoption of the Industrial Production of 15G2AF Sheet Steel"

Moscow, Stal', No 9, Sep 70, pp 828-830

Abstract: An investigation of the 15G2AF plate steel (10-25 mm), commercially produced at the Kommunarsk Metallurgical Plant, revealed that alloying of the manganous structural steel with nitrogen and vanadium increases the strength and plasticity properties of the normalized rolled steel. Normalizing of the metal effects a size reduction of the grain (to 10-12), which assures a low (-100°C to -120°C) cold brittleness threshold. The strength of the 15G2AF steel was found to be at least 60 kg/mm² and the yield stress at least 45 kg/mm². Use of 15G2AF steel for welded structures decreased weight, in comparison with steel 10G2S1, by 13.6%.

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1/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--PHOSPHAZOTRIAZINES. III. OXIDATIVE IMINATION OF COMPOUNDS, OF
PHOSPHORUS, III, WITH AZIDES OF 1,3,5, TRIAZINES --U--
AUTHOR--(04)--BUKOVSKIY, M.I., SOLODUSHENKOV, S.N., MOSIYCHUK, A.I., KUKHAR,
V.P.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 782-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANIC PHOSPHORUS COMPOUND, TRIAZINE, ISOMER, IMINE, AZIDE,
ORGANIC SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1138 STEP NO--UR/0079/70/040/004/0782/0784
CIRC ACCESSION NO--AP0128563

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0128563
ABSTRACT/EXTRACT--(U) CP-O- ABSTRACT. AN EQUIMOLAR MIXT. OF PH SUB3 P
AND I IS SHOWN ON MICROFICHE. FACILITY: INST. ORG. KHIM., KIEV,
USSR.

UNCLASSIFIED

USSR

UDC: 547.491.8

BUKOVSKIY, M.I., SOLODUSHENKOV, S.N., MOSIYCHUK, A.I., and KUKHAR', V.P.,
Institute of Organic Chemistry, Kiev, Academy of Sciences Ukrainian SSR

"Phosphazotriazines. III. Oxidative Imination of Trivalent Phosphorus Compounds by 1,3,5-Triazine Azides"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, pp 782-784

Abstract: For purposes of a study of physiological activity the authors synthesized a series of previously unknown phosphazo-1,3,5-triazines by oxidative imination of trivalent phosphorus compounds with 1,3,5-triazine azides. Triphenylphosphine, trialkyl phosphites and N,N,N,N-tetraethyl diaminoethylphosphite react with 1,3,5-triazine azides to evolve nitrogen and form corresponding phosphazo compounds. Trialkoxyphosphazo-1,3,5-triazines are hydrolyzed by 1 n. hydrochloric acid to give 2-N-dialkoxyphosphonylamino-4,6-bisarylamino-1,3,5-triazines.

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USSR

UDC $\Delta 539.1.073/.074$

SAN'KO, L. A., TAKIRAYEV, ZH. S., BOOS, E. G., VOLKOVA, O. I., MOSTYENKO
A. M., ZAYTSEV, K. G., TEMIRALIYEV, T. T., and Kholmetskaya, A. V.,
Institute of Nuclear Physics, Kazakh SSR Academy of Sciences, Alma-Ata

"Identification of Secondary Particles From the Ionization Losses in a
Hydrogen Bubble Chamber"

Priboy i Tekh Eksper, No 4, 1971, pp 67-69

Abstract: The authors give the results of identifying secondary charged particles forming in the interactions of protons at an impulse of 10 GeV/sec in an 81-cm hydrogen bubble chamber. They show that by using the method of average length of discontinuities they can determine the nature of 30% of all positive particles in a certain range. Graphs are used to illustrate the authors' results. Figure 1 shows the relative error in density as a function of track length. Figure 2 shows the ionization curves computed for various types of particles. Figure 3 shows the distribution of points relative to the ionization curves for positive and negative particles. Analysis of the authors' results shows that the method described herein will allow identification of 90% of all the particles measured. The article contains 3 figures and 4 bibliographic entries.

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USSR

UDC: None 2

TAKIBAYEV, Zh. S., BOOS, E. G., SAN'KO, L. A., MUKHORDOVA, T. I.,
MOSIYENKO, A. M., ZAYTSEV, K. G., and SHARAPOV, K. V., Institute
of High-Energy Physics, Kazakhstan Academy of Sciences

"Studying Four-Beam pp-Interactions at pulses of 19.1 GeV/s"

Moscow, Yadernaya Fizika, vol 16, No 5, 1972, pp 974-982

Abstract: The purpose of the present paper is to study the general dynamic characteristics of secondary particles from four-beam proton-proton interactions, such as pulse and angle distributions, inelasticity, and correlation between nucleons, at primary pulses of 19.1 GeV/s. A comparison of the experimental and theoretical results is also made. The difference between the approach taken by the experiments of this paper and that of earlier work in the same direction is that the present paper takes into account information regarding the nature of the charged particles obtained by direct measurements of the ionization loss density. The experiments involved observations in a two-meter waveguide of a bubble chamber irradiated by protons with a pulse of 19.1 ± 0.1 GeV/s, in which 17,700 events were recorded and 11,000 interactions were

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USSR

UDC: None

TAKIBAYEV, Zh. S., et al, Yadernaya fizika, vol 16, No 5, 1972, pp 974-982

selected for measurement. A table is given of various methods of obtaining experimental data and the corresponding results. Comparison of the theoretical and experimental results indicates that the multiperipheral model on which the former is based shows closer agreement with the experimental distribution of inelastic pp interaction, depending on the number of secondary charged particles. The authors express their appreciation to the Committee on Track Chambers of CERN, workers in the Laboratory of Elementary Particles, the Division of Computer Techniques, and the Mathematical Physics Laboratory of the IFVE [Institute of High-Energy Physics] of the Kazakhstan Academy of Sciences, as well as the LVTA Laboratory of the Joint Institute of Nuclear Research.

2/2

Nuclear Physics

USSR

UDC A539.1.073/.074

BOOS, E. G., MOSIYENKO, A. M., SAN'KO, L. A., TAKIBAYEV, ZH. S., and
TEMPRALIYEV, T. T., Institute of Nuclear Physics, Kazakh SSR Academy of
Sciences, Alma-Ata

"Determination of the Nature of Charged Particles by Delta-Electrons in a
Hydrogen Bubble Chamber"

Pribery 1 Tekh Eksper, No 4, 1971, pp 64-66

Abstract: The authors discuss the results of a new method of identifying high-energy charged particles by using delta-electrons. The delta-electrons were registered on secondary tracks of four-beam pp-interactions in an 81-cm hydrogen bubble chamber with a primary impulse of 10 GeV/sec. The effectiveness of the method is 4% of the total number of secondary particles; in principle it makes it possible to determine the nature of the particles in the region of impulses greater than 2 GeV/sec where it is practically impossible to make identification by measuring the ionization losses. The authors support their findings with equations and schematics. Figure 1 depicts the impulse spectrum for positive particles and delta-electrons. Figure 2 describes the distribution by the square of the mass for negative and positive particles. Figure 3 shows the impulse spectrum
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USSR

BOOS, E. G., et al., Priory 1 Tekh Eksper, No 4, 1971, pp 64-66

of particles with an impulse greater than 2 GeV/sec., The article contains
3 figures and 3 bibliographic entries.

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- 110 -

USSR

UDC 535.215.12+621.382.28

3

LITOVCHENKO, V. G., SERBA, A. A., GORBAN', D. N., MOSKAL', D. N., IVANOVA, T. P.,
TKACHIK, V. P., PROKUROV, A. V.

"Use of an Optoelectronic Converter based on a Metal-Dielectric-Semiconductor
Photovaricap in a Dosimetric Device"

Kiev, Poluprovodnikovaya tekhnika i mikroelektronika, No 5, 1971, pp 108-113

Abstract: A study was made of the basic characteristics of a new type of semiconductor voltage modulator using a surface metal-dielectric-semiconductor photovaricap as the active element. The theoretical analysis of the physical phenomena determining the operation of the MDS photovaricaps and also some experimental results of studying their characteristics were presented previously [V. G. Litovchenko, et al., Elektronnaya tekhnika, Series 2, No 1, 96, 1967; V. G. Litovchenko, et al., Radiotekhnika i elektronika, Vol 12, No 1, 76, 1967].

An optoelectronic modulator of constant and low-frequency voltages from high-resistance sources was developed on the basis of an MDS photovaricap and a light diode. The modulator is characterized by high-frequency parameters (10^5 - 10^7 hertz), high input impedance ($> 10^{12}$ ohms), small size and weight. Experimental data were obtained which illustrate the operation of the MDS photovaricap in the optoelectronic modulator, in particular, combined with the

USSR

LITOVCHENKO, V. G., et al., Poluprovodnikovaya tekhnika i mikroelektronika, No 5, 1971, pp 108-113

ionization chamber. The application of these optoelectronic modulators permits an increase in their modulation frequency by several orders (by comparison with mechanical dynamic capacitors) and, therefore, use of ordinary alternating voltage amplifiers instead of electrometric input cascades.

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USSR

UDC 535.215.12+621.382.28

LITOVCHENKO, V. G., SERBA, A. A., GORBAN', D. N., ~~MOSKAL', D. N.,~~
IVANOVA, T. P., TKACHIK, V. P., and PROKUROV, A. V.

"Using Optical-Electronic Converters Using MOS Photovaricaps in
Dosimetric Equipment"

Kiev, Poluprovodnikovaya tekhnika i mikroelektronika, No. 5, 1971,
pp 108-113

Abstract: An investigation is made of the basic characteristics of a new type of semiconductor voltage modulator used as the active element in a surface metal oxide semiconductor photovaricap. This paper is thus a sequel to two earlier articles (Elektronnaya tekhnika, Series 2, 1967, 1, 96, and Radiotekhnika i elektronika, 1967, 12, 1, 76) written by the same authors, which dealt with the theoretical analysis of the physical phenomena determining the operation of MOS varicaps of the optical variety, and the experimental results of research into their characteristics. The experiments described in the present paper were conducted with p-type silicon specimens of various resistivities, from 10^2 to 10^4 ohm.cm, the surfaces of which were cleaned and sputtered with a layer of SiO₂. A block diagram of the measuring equipment is shown and its operation described. The authors conclude that these photovaricaps can

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USSR

LITOVCHENKO, V. G., et al., Poluprovodnikovaya tekhnika i mikro-
elektronika, No. 5, 1971, pp 108-113

be successfully used in equipment for measuring small constant or slowly varying currents and voltages from high-resistance sources. They are associated with the Semiconductor Institute, Ukrainian Academy of Sciences.

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- 31 -

435K

UDC 616.981-718.078.737 4

MARTYNYUK, Yu. V., EMDINA, I. A., TITOV, M. B., OBOLENSKAYA, G. I., KRUKIYER, M. D., SUPRUNOVICH, M. S., ZABNINA, S. G., and MOSKAL'CHUK, Z. A., L'vov Institute of Epidemiology and Microbiology

"Specificity of the Complement Fixation Reaction in the Diagnosis of Q Fever"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, 1970, pp 55-59

Abstract: Study of the immunological structure of the L'vov population with respect to Q fever, using the complement fixation reaction with antigen from *Rickettsia burneti*, revealed the highest number of positives (18-21%) among livestock handlers, meat plant workers, etc., as compared with 10.7% in the population at large. Serological examination of 429 hospitalized patients with cardiovascular, respiratory, liver, kidney, gastrointestinal, endocrine diseases, etc., 1730 febrile patients suffering from typhoid, influenza, meningoencephalitis, and other infectious diseases, and 158 cancer patients showed that about 12% had complement-fixing antibodies to the specific Q-fever antigen, or about the same rate as in the general population. There was no increase in the level of specific complement-fixing antibodies in any of the patients with diseases

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USSR

MARTYNYUK, Yu. V., et al, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii,
No 4, 1970, pp 55-59

of non-Q-fever etiology. Even when the sera were stored for as long as 3-4
months (at 4°C) no nonspecific reactions were observed.

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USSR

UDC 666.192.462

ZOLOTAREVA, R. S., Candidate of Technical Sciences, and RUSLOV, V. N.,
KOSTYRYA, V. N., and MOSKALENKO, A. M., Engineers (NIIavtosteklo /expansion
unavailable/)

"Efficient Utilization of Graphite in the Production of Quartz Tubes"

Moscow, Steklo i Keramika, No 12, Dec 73, p 33

Abstract: Quartz for the production of quartz tubes at the "Avtosteklo" plant is melted in graphitized crucibles 172 x 350 mm, made from a blank 200 mm in diameter and 420 mm long. The crucible is made from the blank by means of a goring cutter on a lathe, with utilization of 14% of the material of the blank. An efficient method for cut-out of the blank by a special milling cutter is proposed by the authors, which would result in an increase of the coefficient of utilization of the material by a factor of 2.2. This would save the plant 19,000 rubles per year. 3 figures.

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USSR

UDC 621.515.018

MOSKALENKO, A. S., ZEL'DES, N. L.

"Results of Experimental Investigation of the Effect of Water Fed to a Centrifugal Compressor on the Compressor Parameters"

Samoletostro. i tekhn. vozd. flota. Resp. mezhved. nauchno-tekhn. sb. (Aircraft Construction and Air Fleet Engineering. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 22, pp 36-46 (from RZh-Turbostroyeniye, No 1, Jan 71, Abstract No 1.49.111)

Translation: Injection of water into a compressor intake for evaporative air cooling greatly decreases the air temperature at the compressor output. Thus, for a water flow rate on the order of 0.025, the air temperature at the compressor output decreases by approximately 43°C with an ambient temperature of 11.8-13.1°C and a relative ambient humidity of $\phi = 41-42$. During testing of the compressor there was complete evaporation of the injected moisture to the saturation state for different rpm and different positions of the baffle plate. Evaporative air cooling during the compression process in a centrifugal compressor during operation with $n = \text{const}$ decreases the power consumed by the compressor. Evaporative cooling leads to an increase in the degree of increase in pressure and an increased air flow rate. On introduction of evaporative cooling, the compressor characteristic is shifted somewhat toward the region of higher flow rates in connection with the increase in air density at the impeller output.

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USSR

UDC 66.095.26

MOSKALENKO, L. N., AREST-YAKUBOVICH, A. A., Physico-Chemical Institute
Imeni L. Ya. Karpov, Moscow

"Anionic Polymerization of Butadiene in Hexamethylphosphorotriamide
and the Effect of Metal Compounds From the I and II Group"

Moscow, Doklady Akademii Nauk SSSR, Vol 195, No 6, Dec 70, pp 1370-1372

Abstract: It was found that both the alkali and alkali earth metals form complexes with aromatic hydrocarbons in hexamethylphosphorotriamide [HMPT] and act as initiators for polymerization of butadiene. The polymerization is rapid, accompanied by considerable evolution of heat. To obtain polymers whose microstructure is temperature dependent the monomer was added through a gas phase at a pressure of 10-15 mm Hg into a thermostated reactor equipped with a magnetic stirrer. Experimental data showed that polymers obtained in this way had identical microstructure, while those obtained in polar solvents showed a strong dependence on the anti-ion. This indicates that polymerization in HMPT occurs by the free ion mechanism. The fact that molecular weight

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USSR

MOSKALENKO, L. N., et al., Doklady Akademii Nauk SSSR, Vol 195, No 6, Dec 70, pp 1370-1372

of the polymers is close to the theoretically calculated value shows that HMPT does not act as chain transmitter. It was determined that with polymerization of butadiene on free anions the 1-2 bonds predominate in the chain, while cationic polymerization leads to predominance of 1-4 bonds.

2/2

1/2 015
TITLE--SPECTRAL AND INTEGRAL ABSORPTION IN THE 5.3-MU ND BAND -U-
AUTHOR--(02)-MOSKALENKO, N.I., MIRUMYANTS, S.O.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, FIZ. ATMOS. OKEANA 1970, 6(2), 208-9
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ABSORPTION SPECTRUM, NITROGEN, NITROGEN OXIDE, LEAST SQUARE METHOD
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3009/0112
CIRC ACCESSION NO--AP0138977
STEP NO--UR/0362/70/006/002/0208/0209
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138977

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ABSORPTION SPECTRA OF NO PLUS
N SUB2 MIXTS. WITH DIFFERENT CONCNS. WERE RECORDED WITH PREVIOUSLY
DESCRIBED EQUIPMENT (N. I. MOSKALENKO, 1969) AT EFFECTIVE PRESSURES OF
1, 5, 10, 20, 40, 100, 200, 400, 760, AND 2200 TORR. THE DATA WERE
APPLIED TO THE DETN., BY THE LEAST SQUARES METHOD, OF THE PARAMETERS OF
THE SPECTRAL TRANSMISSIVITY FUNCTION (B. M. GOLUBITSKII, AND N. I.
MOSKALENKO, 1967). THE CALCD. AND EXPTL. TRANSMISSION SPECTRA AGREE
WELL.

UNCLASSIFIED

USSR

UDC 637.812.2:334.812.31

MOSKALENKO, V. A., GOLUB, A. A., and KOK, L. Z., Institute of Applied Physics,
AN Moldavian SSR

"Absorption of Ultrasound in Dual-Zone Superconductors With Nonmagnetic Impurity"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 30, No 2, Aug 70, pp 289-294

Abstract: The method of acoustical absorption is widely used for the investigation of the energy spectrum of superconductors. Earlier works have developed the theory of absorption of ultrasound in single-zone anisotropic superconductors. Still other works have considered the multizoned structure of superconductors in the spectrum during the investigation of the absorption of ultrasound. In contrast to these works, the present work studies the absorption of ultrasound in dual-zone superconductors, taking into account the scattering of electrons on impurity atoms between zones. This scattering leads to significant changes, even with low impurity concentrations. For example, only one slit appears instead of the usual two slits in the energy spectrum, the electron densities of the states of each zone near the slit depend significantly on the concentration of impurity atoms, etc. The ratio of ultrasonic absorption coefficients a_s/a_n is calculated in the superconducting and normal states of dual zone 1/2

USSR

MOSKALENKO, V. A., et al, Fizika Metallov i Metallovedeniye, Vol 30, No 2,
Aug 70, pp 289-294

superconductors with nonmagnetic impurity at the upper concentration limit.
Dispersion of the sound wave is not taken into consideration.

2/2

- 39 -

018
UNCLASSIFIED
TITLE--X RAY DIFFRACTION STUDIES OF SECONDARY CRYSTALLIZATION IN A SERIES
OF SILOXANE RUBBERS -U-
AUTHOR-(03)-MOSKALENKO, V.A., TSVANKIN, D.YA., GALILOGLY, F.A.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN. SER. A 1970, 12(3), 548-52
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--X RAY DIFFRACTION STUDY, CRYSTALLIZATION, SILOXANE, SYNTHETIC
RUBBER/(U)SKTV POLYSILOXANE RUBBER, (U)SKT POLYSILOXANE RUBBER, (U)SKTE
POLYSILOXANE RUBBER, (U)SKTVF 803 POLYSILOXANE RUBBER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/1200
CIRC ACCESSION NO--AP0116665
STEP NO--UR/0459/70/G12/003/0548/0552
UNCLASSIFIED

2/2 018
CIRC ACCESSION NO--AP0116665 UNCLASSIFIED PROCESSING DATE--16OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SECONDARY CRYSTN. OF 5
POLYSILOXANE RUBBERS, E.G. SKTV-1, SKTV, SKT, SKTE, AND SKTVF-803, WAS
STUDIED BY AN X RAY DIFFRACTION METHOD (V. A. MOSKALENKO, 1969).
SECONDARY CRYSTNS. MAY BE EXPRESSED IN TERMS OF AVRAHMI'S EQUATION
(HAVING N EQUAL 1). AT TEMPS. CORRESPONDING TO MAX. CRYSTN. RATE,
PRIMARY AND SECONDARY CRYSTNS. OCCURRED SIMULTANEOUSLY, THE FORMER BEING
COMPLETED IN 2-5 MIN. THE SECONDARY CRYSTN. RATE CONSTS. WERE EQUAL TO
0.2-0.6 HR. PRIME1. MAX. CRYSTALLINITY (SIMILAR TO 40-75PERCENT) WAS
REACHED DURING A 1 DAY CRYSTN. OR SLIGHTLY LONGER. FACILITY:
INST. ELEMENTORG. SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 669.295:620.17

M
MOSKALENKO, V. A., PUPTSOVA, V. N. and UL'YANOV, R. A. (deceased), Physico-
technical Institute Academy of Sciences UkrSSR

"Strength and Plasticity of Titanium Alloys at Low Temperatures"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 6, 1970, pp 17-19

Abstract: An investigation was made of the temperature dependence of strength properties, the strengthening effect of alloying elements, and the development of plastic deformation process in α -hardness titanium solutions with aluminum, zirconium, niobium, and vanadium. The highest strength was obtained by alloying titanium with aluminum. The strengthening effect increases with decreasing temperature. A satisfactory plasticity is obtained with 3% aluminum. The temperature dependence of strength characteristics and plasticity of alloys is shown in graphs. Titanium alloys based on α -hard solutions retain high plasticity in the entire low-temperature range (4.2-293°K). It was established that twinning contributes substantially to the development of plastic deformation. Metallographic studies showed that at room temperature plastic deformation is accomplished mainly by slip. 2 figures, 3 references.

1/1

1/2 027 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--PYRAZOLES. LXIV. PROTONATION OF ANTIPYRINE ANALOGS -U-
AUTHOR--(05)-GRANDBERG, I.I., VINOKUROV, V.G., TROYSKAYA, V.S., IVANOVA,
T.A., MOSKALENKO, V.A.
COUNTRY OF INFO--USSR
SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (2), 202-8
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PYRAZOLE, IR SPECTRUM, UV SPECTRUM, IONIZATION, PROTON,
HETEROCYCLIC NITROGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1987/1110

STEP NO--UR/0409/70/000/002/0202/0208

CIRC ACCESSION NO--AP0104508

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 027

CIRC ACCESSION NO--AP0104508

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. IR SPECTRA IN CHCL SUB3 OR IN
CRYST. STATE, UV SPECTRA IN H SUB2 O, MECH, OR CONCD. HCL, AND EPR
SPECTRA IN ME SUB2 SO OR IN 3:1 D SUB2 O-D SUB2 SO SUB4 WERE RECORDED OF
ANTIPYRINE ANALOGS (I, II). IONIZATION CONSTS. (PK SUBA) IN WATER WERE
MEASURED FOR (I, II, R PRIME1 EQUALS PH, R PRIME2 EQUALS ME) (R PRIME 3,
R PRIME5, X AND PK SUBA GIVEN): H, -, O, 2.42; -, H, O, 2.40; ME, -, O,
2.85; ME, -, S, 2.49; ME, -, SE, 2.64; ME, -, NH, 10.4; -, ME, NH, 10.6;
-, ME, S, 2.29; -, ME, SE, 2.42; -, ME, O, 2.49.

UNCLASSIFIED

1/2 026
UNCLASSIFIED
TITLE--ABSORPTION OF LIGHT BY A TWO ZONE SUPERCONDUCTOR -U-
PROCESSING DATE--16OCT70
AUTHOR--(02)-BOTOSHAN, N.I., MOSKALENKO, V.A.
COUNTRY OF INFO--USSR
SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 2, NR 3, PP
383-398
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--LIGHT ABSORPTION, SUPERCONDUCTOR, ALTERNATING MAGNETIC FIELD,
ABSORPTION COEFFICIENT, PARAMAGNETIC MATERIAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1985/2027
STEP NO--UR/0646/76/002/003/0383/0398
CIRC ACCESSION NO--AP0102056
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0102056

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE BEHAVIOUR OF TWO ZONE
SUPERCONDUCTOR WITH PARAMAGNETIC ADMIXTURE IN A CHANGING MAGNETIC FIELD
IS INVESTIGATED. THE ABSORPTION COEFFICIENT OF LIGHT BY TWO ZONE
SUPERCONDUCTOR WITH NON MAGNETIC ADMIXTURE IS OBTAINED IN THE CASE OF
ZERO TEMPERATURE AND HIGH ADMIXTURE CONCENTRATION.

UNCLASSIFIED

USSR

UDC 539.3:534.1

MOSKALENKO, V. N. and SHARYY, N. B.

"The Natural Oscillations of a Cylindrical Shell Stiffened by Stringers With a Closed Deformable Contour"

Moscow, Mekhanika Tverdogo Tela, No 5, 1973, pp 62-65

Abstract: There is presented an exact solution of a problem of the natural oscillations of a cylindrical shell-fold, supported by stringers; the configuration of the cross section of the stringers is subject to deformation. As an example, a study is made of the frequencies and modes of the free oscillations of an end-supported shell, stiffened by one hundred thin-walled stringers.

A model of a shell-fold is used for studying the spectrum of the natural oscillations of cylindrical shells stiffened by a stringer ste. A method based upon the othoganalization of finite-difference equations is used for finding the frequencies and modes of the natural oscillations.

3 figures. 3 references.

1/1

USSR

UDC 539.3

MOSKALENKO, V. N.

"Natural-Oscillation Frequency Spectra of Shells of Revolution"

Moscow, Prikladnaya Matematika i Mekhanika, No 2, 1972, pp 301-305

Abstract: An asymptotic solution of the problem of determining the natural-oscillation frequency spectrum of shells of revolution is presented. The order of permissible error is evaluated on the basis of the example of computations of the Bessel-function zeroes. The distribution density of the frequencies is discussed. On the basis of the example of a cylindrical shell and a closed spherical shell, a comparison is presented with the results of V. V. Bolotin, as well as with the empirical frequency density. 3 figures. 6 references.

1/1

- 64 -

USSR

UDC: 621.375.4.029.64

MALYSHEV, V. A. and MOSKALENKO, Ye. P.

"Investigation of a Conducting Resonance UHF Amplifier With Two Tunnel Diodes in the Transfer Strip"

Kiev, Izvestiya VUZ--Radioelektronika, Vol. 13, No. 10, pp 1221-1226

Abstract: This article is an extension of an earlier paper written by the first-named author above on a resonance system of two arbitrary nonuniform devices at some distance from each other in a transfer strip. The present paper substitutes two tunnel diodes for the nonuniform devices. Using formulas found in the earlier articles, the authors obtain an expression for the power gain at resonance and find that it has a maximum at a particular value of the frequency. A second expression gives them the distance between the diodes corresponding to the average frequency of the system when operating on the negative portions of their volt-ampere characteristics. The curves for the amplifier frequency characteristics for various bias voltages on the diode are plotted. The authors assert that their computations are sufficiently accurate for low input signal levels, and for geometrical dimensions of the tunnel diodes much smaller than the wavelength of the strip signal, when the diodes can be considered point nonhomogeneities.

1/1

1/2 024 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ON THE MECHANISMS CONCERNED WITH ORIGIN OF CSF PRESSURE PULSE WAVES
-U-
AUTHOR--(03)--MOSKALENKO, YU.YE., KISLYAKOV, YU.YA., VAYNSHTEYN, G.B.
COUNTRY OF INFO--USSR
SOURCE--FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I. M. SECHENOVA, 1970, VOL 56,
NR 3, PP 384-391
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BRAIN, BLOOD CIRCULATION, ARTERY, BLOOD VESSEL, BLOOD
PRESSURE, MATHEMATIC ANALYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/0372 STEP NO--UR/0239/70/056/003/0384/0391
CIRC ACCESSION NO--AP0132601
UNCLASSIFIED

2/2 024

CIRC ACCESSION NO--AP0132601
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--13NOV70

ORIGIN OF THE INTRACRANIAL CSF PRESSURE PULSE WAVES THE METHOD OF
MATHEMATICAL SIMULATION OF THE CEREBRAL CIRCULATION WAS USED: THE PULSE
WAVES OF SYSTEMIC ARTERIAL AND VENOUS PRESSURE, THE ELASTICITY OF CRANIO
SPINAL CAVITY AND CEREBRAL VESSELS WERE CONSIDERED AS WELL AS THE
CEREBRO VASCULAR RESISTANCE. THE MATHEMATICAL ANALYSIS OF PHASE AND
AMPLITUDE CORRELATIONS BETWEEN ALL THE REGISTERED PULSE WAVES SHOWED
THAT UNDER NORMAL CONDITIONS THE CSF PRESSURE PULSE WAVES WERE MAINLY
FORMED BY ARTERIAL PULSATIONS, WHILE WITH INCREASED RIGHT ARTERIAL
PRESSURE THE VENOUS PULSATIONS BECAME PREDOMINANT FACTOR.
FACILITY: I. M. SECHENOV'S INSTITUTE OF EVOLUTIONARY PHYSIOLOGY AND
BIOCHEMISTRY ACADEMY OF SCI. USSR, Leningrad.

UNCLASSIFIED

USSR

MOSKALENKO, Yu. Ye., IVANOVA, T. I., VAYNSHTEYN, G. B., ZELIKSON, B. B.,
KISLYAKOV, Yu. Ya., and KAS'YAN, I. I.

"Resistance of the Cerebrovascular System to Transverse Accelerations"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya No 1, 1973,
pp 37-46

Abstract: Histological examination of brain sections from dogs subjected to transverse accelerations of 15 g or more for 30 to 40 seconds revealed pronounced morphological changes in the blood vessels, including rupture of the walls with extensive hemorrhages into the brain tissue and ventricles. Intracranial cerebrospinal fluid pressure increased to 15 to 20 g and then stabilized while blood pressure continued to grow in proportion to the intensity of acceleration. Study of a mathematical model of the process showed that after acceleration of up to 15 g, transmural pressure in the cerebral vessels does not change significantly. However, acceleration of over 15 g increases transmural pressure beyond the tensile strength of the vascular walls and may cause them to rupture. Thus, the resistance of the cerebrovascular system to transverse accelerations is dependent on the relationship between the strength of the structural components of the vascular wall and the increase in transmural pressure.

1/1

USSR

UDC 533.99

BAZAKUTSA, V. A., MOSKALETS, V. F., RUDAKOV, N. S., GOROKHOV,
M. P.

"Some Results of an Investigation of a Plasmatron Intended for
Plasma-Chemical Reactions"

Minsk, V sb. Vopr. fiz. nizkoterperaturn. plasmy (Problems of
the Physics of Low Temperature Plasma -- Collection of Works),
"Nauka i tekhn.," 1970, pp 421-424 (from RZh-Elektronika i yeye
primeneniye, No 2, February 1971, Abstract No 2A343)

Translation: An investigation is made of electrical arcing in
a transverse low-frequency magnetic field, based on a plasmatron
with combined stabilization of the arc by a vortex flow of gas
and the magnetic field. The voltampere characteristics of the
discharge are obtained. 2 illustrations. Summary.

1/1

- 76 -

USSR

GORBUNOV, G. V.; MOSKALEV, E. S.

"Use of Spectral Methods in the Minimization of Combination Circuits"

Riga, Avtomatika i Vychislitel'naya Tekhnika; May-June, 1971; pp 1-8

Abstract: A means of minimizing the number of combination circuits realizable by a canonical method is suggested. The essence of the method lies in finding the optimum linear transformation of arguments by an analysis of functions derived from a given function and having a mutual correlation. The method can be applied successfully to the minimization of the number of circuits realizing systems of logic functions. Three specific examples are given to illustrate the method.

The article includes 25 equations, 3 figures, and 2 tables. There are three bibliographic references.

1/1

USSR

M
MOSKALEV, I. N., PETROV, V. P., STEFANOVSKIY, A. M.

"Use of Open, Barrel-Shaped Resonators for the Study of a Plasma"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, August 1970, pp 1692-1700

Abstract: Simple waveguides with which it is possible, with satisfactory accuracy, to determine the natural frequencies of open, barrel-shaped resonators are described. In addition, results of a more rigorous theory, based on the solution of a wave equation which takes the boundary conditions into account, are obtained. Theoretical conclusions are compared with experimentally measured distributions of the fields in a resonator operating in the 8-mm band. Data on the measurement of the density of the plasma obtained with these resonators agree with the results of probe measurements.

The article includes 20 equations, 6 figures, and one table. There are three references.

1/1

USSR

UDC 546.641-38.07+546.661-38.07

MOSKALEV, P. N., and KIREN, I. S., Leningrad Physico Technical Institute imeni A. F. Ioffe, Leningrad, Academy of Sciences USSR

"Synthesis and Certain Properties of Dipthalocyanines of Yttrium and Erbium"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 15, No 1, 1970, pp 13-15

Abstract: A study was made of the reaction between acetates of yttrium, erbium, and o-phthalolonitrile, and it was found that along with the binuclear complex of composition $Pc_3Lu_2(Ln-Y^{3+}, Er^{3+})$, dipthalocyanines of composition HPc_2Ln pre-dominantly form. The mass of the dry dipthalocyanine was 35-40% of the mass of the synthesis products. Through gravimetric analysis yttrium dipthalocyanine was found to contain 7.76% y. Calculated for $H(C_{32}H_{16}N_8)_2Y$, $y = 7.98\%$. 14.2 Percent Er was found in erbium dipthalocyanine. Calculated for $H(C_{32}H_{16}N_8)_2Er$, $Er = 14.03\%$. Absorption spectra of solutions of dipthalocyanines of erbium and yttrium in dimethylformamide were found to have a principal maximum and the most intense absorption band at 623 m μ for the yttrium dipthalocyanine spectrum and at 624 m μ for the erbium dipthalocyanine spectrum. The hypsochromic shift is 11-12 m μ and is doubtlessly caused by the different effect of the rare earth element ions on the ground and excited energy levels of the p π -electrons of the phthalocyanine macroring.

1/1

Acc. Nr.

AP0034204

Abstracting Service:
CHEMICAL ABST. +70

Ref. Code

UR 0078

M

74210b Synthesis and some properties of yttrium and erbium diphthalocyanines. Moskalev, P. N.; Kirin, I. S. (Fiz.-Tekh. Inst. im. Ioffe, Leningrad, USSR). Zh. Neorg. Khim. 1970, 15(1), 13-15 (Russ). Ln acetate (Ln = Y or Er) reacts with α -phthalonitrile in a 1:10 mole ratio at $\sim 300^\circ$ in a sealed tube to give dark green $\text{Ln} \text{H}(\text{C}_{12}\text{H}_8\text{N}_4)_2$, sparingly sol. in HCONMe_2 or MeOH and insol. in H_2O . The ir spectra of the diphthalocyanine complexes prove the absence of free phthalocyanine.

HMJR

7

REEL/FRAME

19710857

1/2 019
UNCLASSIFIED
TITLE--TIME OF FLIGHT SPECTROMETER FOR MEASUREMENT OF SCATTERING NEUTRON
CROSS SECTIONS -U-
AUTHOR-(02)-ZENKEVICH, V.S., MOSKALEV, S.S.
COUNTRY OF INFO--USSR
SOURCE--AT. ENERG. (USSR); 28: 120-5 (FEB 1970).
DATE PUBLISHED-----70
SUBJECT AREAS--METHODS AND EQUIPMENT, PHYSICS
TOPIC TAGS--LITHIUM GLASS, NEUTRON SCATTERING, NEUTRON CROSS SECTION,
NEUTRON DETECTOR
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--3004/0753
CIRC ACCESSION NO--AP0131348
STEP NO--UR/0039/70/028/000/0120/0125
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0131348

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT.

A TIME OF FLIGHT SPECTROMETER FOR MEASURING NEUTRON SCATTERING CROSS SECTIONS IN A LINAC IS DESCRIBED. A

SAMPLE IS POSITIONED NEAR THE NEUTRON SOURCE. LI-6 GLASS SCINTILLATORS

ARE USED AS NEUTRON DETECTORS. THE TIME RESOLUTION IS 22 NSEC-M FOR

NEUTRON ENERGIES GREATER THAN OR EQUAL TO 500 EV.

UNCLASSIFIED

USSR

UDC 620.179.15

MOSKALEV, V. A., Tomsk Polytechnic Institute imeni S. M. Kirov

"High-Current Betatrons for Defectoscopy of Thick-Walled Products and Materials"
(Paper presented at the Sixth International Conference on Nondestructive Control Methods, June 1-5 1970, Hannover, GFR)

Sverdlovsk, Defektoskopiya, No 2, 1971, pp 123-124

Abstract: On the basis of investigations carried out at Tomsk Polytechnic Institute, high-current betatrons of industrial designation in the range of 15-25 Mev, working on frequencies of 50 Hz, were produced. To evaluate their technical potentialities, roentgenographic defectoscopic investigations of thick layers of different materials (lead, steel, plastic) were carried out. Laboratory investigations confirmed the great opportunities of using high-current betatrons for roentgenographic controls of thick-walled products and materials. Two figures.

1/1

1/2 028 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EVALUATING PROPERTIES OF PLASTICS IN MAKING GASIFIED CASTING MODELS
-U-
AUTHOR--(02)--MOSKALEV, V.G., STEPANOV, YU.A. *M*
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, POLIMERY V LITEYN, PROIZ VE, SBORNIK (POLYMERS IN CASTING
REFERENCE--REFERATIVNYY ZHURNAL-TEKHNOLOGIYA MASHINOSTROYENIYA, NO 2,
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--PLASTIC MECHANICAL PROPERTY, FOAM PLASTIC, POLYSTYRENE RESIN,
METAL CASTING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1663 STEP NO--UR/0000/69/000/000/0112/0116
CIRC ACCESSION NO--AR0117054
UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AR0117054

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASIC PROPERTIES OF MATERIAL USED IN GASIFIED MODELS ARE LISTED. CURRENTLY, THESE REQUIREMENTS ARE MOST FULLY SATISFIED BY FOAM POLYSTYRENE. METHODS OF EVALUATING QUALITY OF SLABS OF FOAM POLYSTYRENE AND GRANULAR FOAM POLYSTYRENE ARE EXAMINED, ALONG WITH DETERMINATION OF MECHANICAL AND PHYSICO-CHEMICAL CHARACTERISTICS OF FOAM POLYSTYRENE.

UNCLASSIFIED

Acc. Nr.: AM 0106711

Ref. Code: UB0000

Gumen, V. F.; Moskaley, V. P.; Smirnova, L. N.; Shmyreva, M. M.

Step Regulators for Programmed Control of Hydraulic Presses (Shagovyye regulatory dlya programmogo upravleniya gidropressami) Leningrad, Nauka, 1970, 82 pp (SL:2076)

TABLE OF CONTENTS:

Chapter I	Extrusion on Hydraulic Presses and Characteristics of Techno-logical Realization of Control Laws	3
II	Synthesis of a System and Calculated Relationships for Elements of a Step Regulator	12
III	Step Drive of the Actuator of a Regulator	26
IV	An Example of Calculation of the Step Regulator Circuit	43
Appendix		77
Bibliography		82

Reel/Frame
19890033

18

Acc. Nr.: AMc106711

The book deals with laws in control of extrusion rates of aluminum alloys on hydraulic presses. Given are methods for design and calculation of programmed regulators for realization of these laws, as well as comparative evaluations of methods for investigation of dynamic properties of systems with step motors...

Reel/Frame
19890034

USSR

UDC[537.226+537.311.33]:538

MOSKALEV, V. V.

"Calculation of Magnetization of Sublattices in RbNiF_3 by Constant Coupling Method"

V sb. Yadern. magnitn. rezonans (Nuclear Magnetic Resonance -- Collection of Works), vyp. 4, Leningrad, Leningrad University, 1971, pp 31-37 (from RZh-Fizika, No 2, Feb 72, Abstract No 2YE1487 by A. V. VEDYAYEV)

Translation: Two sublattices of magnetically active Ni ions occupying non-equivalent α - or f-type sites were isolated in the structure of RbNiF_3 . The interaction within and between the sublattices is characterized by exchange integrals of the $I_{\alpha f}$ and I_{ff} type. The constant coupling method is used to calculate the magnetization and susceptibility of each sublattice in the temperature region above the Curie point. The calculated temperature dependence curves for magnetization and susceptibility, which depend on values of the exchange integrals I_{ff} and $I_{\alpha f}$ as well as on parameters, were compared with experimental curves. It is determined from the condition of best coincidence of the curves that $I_{\alpha f} = -(40 \pm 4)^\circ \text{K}$ and $I_{ff} = (8 \pm 8)^\circ \text{K}$.

1/1

Acc. Nr.

AP0044475

Abstracting Service:
CHEMICAL ABST.

Ref. Code:

4500000

84309e Stimulated ferromagnetism and the effects of short-range magnetic ordering in RbNiF_2 . Petrov, M. P.; Moskalov, V. V.; Smolenskii, G. A. (Inst. Semicond., Leningrad, USSR). *Solid State Commun.* 1970, 8(3), 157-60 (Eng). The temp. dependence of the sublattice magnetizations is calcd. by the const. coupling method. The exchange parameters $J_{af}/k = 39^\circ\text{K}$ and $J_{ff} = 0$ are detd. The discrepancy between calcns. by const. coupling method and by conventional mol.-field theory is interpreted as a result of short-range magnetic ordering. The stimulated ferromagnetism in RbNiF_2 was discovered by S., et al. Theoretically this effect in ferromagnets was predicted by J. Smit and H. P. J. Wijn and was discussed by J. S. Smart. This effect consists in the existence of oppositely directed magnetic sublattices in a ferromagnet above the Curie point in the presence of an external magnetic field. The temp. dependence of the sublattice magnetizations in RbNiF_2 was measured by NMR, and the same dependence was calcd. by mol.-field theory. It was necessary to take into account the short-range magnetic ordering effects to reach quant. agreement between exptl. temp. dependences of sublattice magnetizations and theoretical ones which were calcd. by mol.-field theory (MFT). An important role was played by the ferromagnetic exchange interaction within $\text{Ni}(f)\text{-Ni}(f)$ pairs. RCYZ

REEL/FRAME

19771098

10 18

1/2 008 UNCLASSIFIED
TITLE--TESTS FOR UNDIRECTED GRAPHS -U- PROCESSING DATE--20NOV70
AUTHOR--(03)--DANILCV, V.V., KARPOVSKIY, M.G., MOSKALEV, YE.S.
COUNTRY OF INFO--USSR
SOURCE--AVTOMATIKA I TELEMEXHANIKA, 1970, NR 4, PP 160-168
DATE PUBLISHED-----70
SUBJECT AREAS--MATHEMATICAL SCIENCES
TOPIC TAGS--GRAPH THEORY, TEST
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1998/0603 STEP NO--UR/C103/70/000/004/0160/0168
CIRC ACCESSION NO--AP0121272
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0121272

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. THERE IS SUGGESTED A METHOD OF DETERMINING THE MINIMAL TESTS FOR CHECKING THE EFFICIENCY AND THE DIAGNOSTICS OF THE FAILURES OF ARBITRARY MULTIPLICITY IN UNDIRECTED GRAPHS BY MEANS OF THE METHOD OF BRANCHES AND BOUNDARIES. THERE ARE GIVEN THE LOWER AND THE UPPER ESTIMATIONS OF THE NUMBER OF TEST SETS TO CHECK THE EFFICIENCY AND THE DIAGNOSTICS OF FAILURES IN UNDIRECTED GRAPHS.

UNCLASSIFIED

USSR

UDC: 577.1:612.12.015

IL'IN, L. A., and MOSKALEV, Yu. E., editors:

"Distribution, Kinetics of Metabolism, and Biological Effect of Radio--
active Isotopes of Iodine"

Raspredeleniye, kinetika obmena i biologicheskoye deystviye radioaktivnykh
izotopov yoda (cf. English above), collection of works, Moscow, "Meditsina,"
1970, 240 pp, ill., 2 r. 11 k. (from RZh-Biologicheskaya Khimiya, No 9,
May 71, Abstract No 9 F1408 by V. Sh.)

Translation: The biological effect of iodine, its influence on the cardio--
vascular system, autoimmune reactions of the endocrine glands, formation
of tumors and nontumor disorders developing longer after radiiodine lesions
were studied.

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1/2 024

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--EXPERIMENTAL STUDY OF RADIONUCLIDE TRANSFER THROUGH THE PLACENTA
AND THEIR BIOLOGICAL ACTION ON THE FETUS -U-

AUTHOR--(05)-MOSKALEV, YU.I., BULDAKOV, L.A., LYANGINSKAYA, A.M.,

OVCHARENKO, E.P., YEGOROVA, T.M.

COUNTRY OF INFO--USSR

M

SOURCE--(CONF 690501, PP 153-60)

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, NUCLEAR SCIENCE AND
TECHNOLOGY

TOPIC TAGS--PLACENTAL TRANSPORT, RADIOACTIVE ISOTOPE, TRANSURANIUM
ELEMENT, FETUS, STRONTIUM ISOTOPE, AMERICIUM ISOTOPE, IODINE ISOTOPE,
RADIATION BIOLOGIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3001/2183

STEP NO--UR/0000/70/000/000/0153/0160

CIRC ACCESSION NO--AT0127547

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0127547

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LEVELS OF RADIONUCLIDE TRANSFERRED TO THE FETUS AND RADIONUCLIDE RETENTION IN THE PLACENTA DEPEND ON THE CHEMICAL CHARACTERISTICS OF THE NUCLIDE AND THE PERIOD OF PREGNANCY. THE PLACENTAL TRANSFER OF ALL NUCLIDES INCREASED BETWEEN MIDTERM (11 TO 15 DAYS OF GESTATION) AND THE END OF PREGNANCY. THE RATIOS OF THE NUCLIDE TRANSFERRED TOWARD TERM TO THAT TRANSFERRED EARLIER WERE PRIME239 PU, 1.7; PRIME241 AM, 2.8 TO 4.5; PRIME137 CS, HTO, AND PRIME237 NP, 5; PRIME90 SR, 20; AND PRIME131 I, 1700 TO 6000. THE CONTENT OF TRANSURANIC ELEMENTS IN THE PLACENTA AT ALL PERIODS OF PREGNANCY WAS 3 TO 15 TIMES HIGHER THAN IN THE FETUSES. RADIOINDUCED CHANGES IN THE EMBRYO DEPEND ON THE AMOUNT OF ACTIVITY INJECTED, THE DISTRIBUTION PATTERN, AND THE PHYSICAL PROPERTIES OF THE RADIONUCLIDE. THE MOST CHARACTERISTIC CHANGES ASSOCIATED WITH THE VARIOUS RADIONUCLIDES ARE: PRIME90 SR, A DECREASE IN THE TRANSFER OF NUCLIDE FROM PLACENTA TO FETUS; PRIME241 AM, EARLIER INDUCTION OF RADIATION DISORDERS IN THE PLACENTA THAN IN THE FETUSES; PRIME131 I, OCCURRENCE OF RADIOINDUCED EMBRYOPATHY DEPENDS ON THE PRODUCTION OF DISORDERS IN THE MOTHER'S THYROID; HTO, GENERALIZED VASCULAR CHANGES IN THE MOTHERS AND FETUSES. FACILITY: MINISTRY OF PUBLIC HEALTH, MOSCOW.

UNCLASSIFIED

1/2 Q20 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--KINETICS OF ACCUMULATION AND TISSUE DOSES OF TRITIUM OXIDE
CHRONICALLY ADMINISTERED TO RATS -U-
AUTHOR--(02)-ISTOMINA, A.G., MOSKALEV, YU.I.
COUNTRY OF INFO--USSR
SOURCE--RADIOBIOLOGIYA 1970, 10(2), 310
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TRITIUM OXIDE, RAT, RADIOACTIVE ISOTOPE, RADIATION DOSIMETRY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605004/B10 STEP NO--UR/0205/70/010/002/0310/0310
CIRC ACCESSION NO--AP0139604
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139604

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETICS OF ACCUMULATION OF PRIME3 H AND TISSUE DOSES WERE STUDIED IN RATS AFTER CHRONIC ADMINISTRATION OF PRIME3 H SUB2 O IN DOSES OF 1.4 TIMES 10 PRIME5 NEGATIVE, 2.8 TIMES 10 PRIME6 NEGATIVE, AND 7 TIMES 10 PRIME7 NEGATIVE CI-G-DAY FOR 64 DAYS. PRIME3 H CONTENT WAS DETD. IN URINE AND TISSUE FLUID AND 11 DRY MATTER OF 13 RAT TISSUES. AN EQUIL. WAS FOUND AFTER 20 DAYS. TOTAL TISSUE DOSE D (IN RADS) ABSORBED BY A RAT DURING CHRONIC ADMINISTRATION OF PRIME3 H SUB2 O MAY BE CALCD. FROM THE EQUATION $D = 9.5 \times 10 \times \text{PRIME5} (T-7) A \text{ SUBO}$ (T IS GREATER THAN 20), WHERE T EQUALS PERIOD OF PRIME3 H ADMINISTRATION (IN DAYS), A SUBO EQUALS THE ACTIVITY OF PRIME3 H SUB2 O ADMINISTERED (IN CI-G-DAY). TOTAL ABSORBED DOSE OF RADIATION RECEIVED BY A RAT AFTER THE INTERRUPTION OF THE RADIOISOTOPE ADMINISTRATION IS $D = 8 \times 10 \times \text{PRIME6 SUBAO}$. FACILITY: INST. BIOFIZ., MOSCOW, USSR.

UNCLASSIFIED

Pathology

USSR

UDC 616.24-002.5-06:616.24-003.667-07:616.12-073.97

KOMAROVA, O. I., and MOSKALEVA, A. I., Scientific Research Institute of Tuberculosis, Sverdlovsk

"Electrocardiogram after Physical Loads in Patients With Asbestotuberculosis"

Moscow, Problemy Tuberkuleza, Vol 48, No 7, 1970, pp 19-21

Abstract: Electrocardiograms after physical loading were obtained for 78 patients with asbestotuberculosis and compared with those of 78 patients with ordinary pulmonary tuberculosis. The patients with asbestotuberculosis exhibited a 37% frequency of pathological changes in the EKG, as compared to 27% for those with ordinary tuberculosis. The EKG change was of the dystrophic type in most cases. Pathological changes after physical loading were generally shown by patients who had disturbances of the EKG in a state of rest, although the disturbances during rest were relatively weak. It was previously established that the reactivity of the cardiovascular system to various external effects is lowered in asbestotuberculosis. This lowered reactivity, which was also observed in silicosis, is part of an adaptation process that prevents decompensation in pulmonary lesions.

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Acc. Nr:

AP0052069

Ref. Code: BR0396

PRIMARY SOURCE: Patologicheskaya Fiziologiya i
Eksperimental'naya Terapiya, 1970, Vol 14,
Nr 1, pp 68-71

CHANGES OF ERYTHROPOIETINS FOLLOWING ACUTE BLOOD LOSS IN DOGS

G. P. Moskaleva, B. A. Serebryanaya, N. A. Gorbunova

The authors studied the results of changes of erythropoietins in the blood serum of dogs following acute blood loss on 25 dogs, 185 rats and 119 mice. Biphasic character of accumulation of erythropoietins in the blood serum of dogs was shown on the first and 5th day after acute blood loss. In comparing the dynamics of the erythropoietin content with the changes in the peripheral blood and bone marrow it was noted that the first phase of erythropoietin accumulation paralleled the increase of mitotic activity of erythroblasts and the reticulocyte count in the bone marrow and the peripheral blood; this was possibly associated with hypoxia caused by blood loss. The second phase of increase of erythropoietic activity coincided with bone marrow activation and with reticulocytic crisis in the peripheral blood. A conclusion was drawn on the importance of erythropoietins in the mechanism of blood regeneration following blood loss.

REEL/FRA
19820607

1/2 030 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--REDISTRIBUTION OF SULFUR IN TRANSFORMER STEEL -U-
AUTHOR--GRUZIN, P.L., ZEMSKIY, S.V., GRIGORKIN, V.I., MOSKALEVA, L.N.,
SALKOVA, V.K. *m* *\$*
COUNTRY OF INFO--USSR
SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (2) 16-19
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--TRANSFORMER STEEL, SULFUR, COLD ROLLING, THERMAL DIFFUSION,
RADIOGRAPHY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/1310 STEP NO--UR/0129/70/000/002/0016/0019
CIRC ACCESSION NO--AP0106087
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106087

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MICRODISTRIBUTION OF S IN TRANSFORMER STEEL WAS STUDIED BY AUTORADIOGRAPHY. TWO CONDITIONS WERE STUDIED, (1) COLD ROLLED FOLLOWED BY DECARBURIZATION HEATING, (2) COLD ROLLED FOLLOWED BY HIGH TEMP. ANNEALING IN H OR VACUUM THEN GIVEN A 2ND COLD ROLL. S IS DISTRIBUTED UNEVENLY, SULFIDES WERE OBSD. EVEN FOLLOWING HIGH TEMP. HEATING. RATIO-METRIC ANAL. OF THE LAYERS SHOWED THAT FOLLOWING HIGH TEMP. ANNEALING, THE CONC. OF S INSIDE THE SHEET WAS LOWERED TO ONE THIRTIETH-ONE TWENTIETH AS COMPARED WITH THE INITIAL WHILE THE SURFACE OF THESE SAME LAYERS (UP TO 5 MU) INCREASED CONC. 5-10 TIMES. THE ENRICHED S LAYER MUST BE REMOVED. THE STUDY OF C AND S DIFFUSION IN TRANSFORMED STEEL SHOWED THAT AT 900DEGREES, THE DIFFUSION OF S PROCEEDS AT ONE TENTH PRIME⁴, AND AT 1200DEGREES, AT ONE TENTH THE TIME OF C DIFFUSION.

UNCLASSIFIED

173 024 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--STRUCTURE OF SURFACE LAYERS AND ITS EFFECT ON THE PROPERTIES OF
TRANSFORMER STEEL -U-
AUTHOR--(05)--GRIGURKIN, V.I., MOSKALEVA, L.N., MEDVEDEVA, N.N., ZEMSKIY,
S.V., CHERNENILOV, M.F.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(2), 297-301
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--X RAY DIFFRACTION ANALYSIS, ELECTRON MICROSCOPY, METAL
ROLLING, TRANSFORMER STEEL, SILICON ALLOY, METAL SURFACE PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/1932

STEP NO--UR/0048/70/034/002/0297/0301

CIRC ACCESSION NO--AP0115743

UNCLASSIFIED

2/3 024

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRE ACCESSION NO--AP0115743

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPN. AND STRUCTURE OF SURFACE LAYERS AND THE INCIDENCE OF SURFACE IMPURITIES IN TRANSFORMER STEEL STRIP AT VARIOUS STAGES OF MANUF. WERE STUDIED TO DET. THE LONGITUDINAL AND TRANSVERSE DISTRIBUTION OF THE SURFACE FILM ON THE STRIP AND TO FIND MEANS FOR IMPROVING INTEROPERATION DESCALING. LAB. AND INDUSTRIAL SCALE TESTS WERE MADE ON 70 FURNACE HEATS; THE STRIP SPECIMENS WERE EXAMD. CHEM., METALLOGRAPHICALLY, BY X RAY DIFFRACTION, ELECTRON MICROSCOPY, AND RADIOISOTOPES. FAYALITE WAS THE CHIEF COMPONENT OF THE SURFACE LAYER RESPONSIBLE FOR DIFFICULTIES IN CHEM. DESCALING. FOLLOWING ROLLING FROM 2.5 TO 0.6 MM, THE SURFACE LAYERS CONTAINED C3-10, SIO SUB2 1-7, FE SUB2 O SUB3 0.8-1.0, AND FE 82-90PERCENT. THE AMT. OF SCALE AFTER ROLLING DEPENDED ON THE CONSTITUTION OF THE DESCALED SURFACE, AND CONSTITUTED IS SIMILIAR TO 0.65 G-M PRIME2 AFTER THE 1ST COLD ROLLING AND IS SIMILIAR TO 2.85 G-M PRIME2 IN THE FINISHING STAGE. A METALLOGRAPHIC ANAL. OF SPECIMENS SUBJECTED TO HIGH TEMP. ANNEALING IN H, N, AND A VACUUM SHOWED THAT, REGARDLESS OF THE ANNEALING ATM., THE THICKNESS OF THE SURFACE LAYERS WAS 6-80 AND 4-36 MU AT THE EDGES AND IN THE MIDDLE OF THE STRIP, RESP. IN THE ABSENCE OF AN OXIDE SURFACE LAYER THE MAGNETIC INDUCTION WAS 19,200-19,500 G WHILE IN THE PRESENCE OF A THICK LAYER IT WAS SIMILIAR TO 18,700 G. A MATH. ANAL. OF THE DISTRIBUTION CURVES OF C CONC. IN THE METAL AND IN THE OXIDE LAYER SHOWS THAT THE RATE OF C DIFFUSION (OWING TO A DECARBURIZING ANNEAL) IN THE LAYER AT VARIOUS TEMPS. WAS A FACTOR OF 10 PRIME3 TO 10 PRIME6 LESS THAN THOSE IN THE FESI ALLOY.

UNCLASSIFIED

3/3 024
CIRC ACCESSION NO--AP0115743

UNCLASSIFIED

PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--FACILITY: LIPETSK, FILIAL MOSK. INST. STALI SPLAVOV,
LIPETSK, USSR.

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UNCLASSIFIED

Acc. Nr.

170049882

Abstracting Service:

CHEMICAL ABST. 5/19M

Ref. Code

UR 0020

1054701 Spectroscopic manifestations of phase transitions in crystalline cyclopentane. Zhizhin, G. N.; Lozovik, Yu. B.; Moskalova, M. A.; Usmanov, A. (Inst. Spektrosk., Akademgorodok, USSR). *Dokl. Akad. Nauk SSSR* 1970, 190(2), 301-4 (Phys) (Russ). Phase transitions in mol. crystals cause changes in their ir spectra (width, intensity and splitting). The changes of bandwidth were used to det. phase transitions in cyclopentane. The absorption band was measured at 300-80°K. Sample thickness was 35 and 100 μ . The bandwidth decreased with decreasing temp. from 23 to 2.8 cm^{-1} . Its plot vs. temp. shows discontinuities at the temps. of freezing and transitions into different cryst. modifications. Freezing appears at 179.5°K as a change in the slope of the line and as the temp. is lowered further transition from cryst. phase I to II at 138.1°K is manifested as a decrease of bandwidth by 2 cm^{-1} ; at 122.4°K transition of phase II to III appears as a decrease in bandwidth by 7 cm^{-1} . Anal. of the line segments corresponding to different phases allowed one to det. the barriers to rotational reorientations: 1.2 kcal/mole for the liq., 0.8 kcal/mole for phase I and 0.4 kcal/mole for phase II. In some of the samples of phase III dichroism could be obsd. by using polarized light. Roman Mykolajewycz

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REEL/FRAME
19801814

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USSR

MOSKALEVA, Ye. Yu.

"Studies on Urinary Deoxyribonuclease Activity in Simians With Acute Radiation Sickness"

Byul. Eksperim. Biol. i Med., Vol 74, No 11, 1972, pp 28-30 (from Referativnyy Zhurnal -- Biologicheskaya Khimiya, No 5, 1973, Abstract No 5F1519)

Translation: Inhibition of DNase I activity in the urine of simians was noted 1-8 days following irradiation with a dose of 620 roentgens (LD 80 -- 90/45), and an increase in the activities of DNases I and II was noted on the 20-30th day. Urinary protein excretion did not deviate from the norm until day 8, and exceeded normal values from the 10th to the 30th day. Elevated DNase activities during this period coincided with the initiation of hemopoietic tissue regeneration. (resume)

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USSR

UDC 617-001.28-036.11-092.9-07:616.633.153-074

MOSKALEVA, Ye. Yu.

"Desoxyribonuclease Activity in Monkeys During Acute Radiation Sickness"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 11, 1972, pp 28-30

Abstract: Gamma irradiation (620 r, LD_{80-90/45}) of monkeys decreased DNase I activity by 42 to 72% of the baseline value by day 8 after exposure and by 96 to 244% between days 20 and 30. DNase II activity remained normal until day 15 but increased 128% by day 20 of radiation sickness. Study of the amount of protein excreted with urine in the same animals showed it to be normal between days 1 and 8, above normal on day 10, and fluctuating at a lower level between days 15 and 30. Thus, the dynamics of enzymatic activity did not parallel that of protein in urine. The marked inhibition of DNase I activity between days 1 and 8 occurred while the protein content was normal and the period of peak enzymatic activity on day 20 did not coincide with the time of maximum excretion of protein with urine on day 10. This suggests that the mechanisms responsible for increased proteinuria and desoxyribonuclease activity in monkeys are different.

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USSR

UDC 547.241

MOSKALEVSKAYA, L. S., and FEDOROVA, G. K.

"Derivatives of β -Ketophosphinic Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 10, Oct 73, pp 2183-2187

Abstract: Thionyl chloride reacted with diphenylacetyl-, phenylphenacetyl- and styrylphenacetylphosphonium salts leads to the formation of corresponding acid dichlorides which can be easily alkoxylated with alcohols in presence of pyridine or reacted with amines to form respective esters and amides of β -ketophosphinic acids. The esters and amides of β -ketophosphinic acids react with phenyl- and 2,4-dinitrophenylhydrazines yielding corresponding hydrazones; with hydroxylamine corresponding oximes are obtained.

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- 35 -

USSR

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UDC 547.572 : 547.241

FEDOROVA, G. K., SHATURSKIY, YA. P., MOSKALEVSKAYA, I. S., and
KIRSANOV, A. V., Institute of Organic Chemistry, Academy of Sciences
Ukrainian SSR

"Synthesis of β -Ketophosphinic Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 1167-
1168

Abstract: Phosphorylation of α -methoxystyrene with phosphorus penta-
chloride, phenyl- and styryltetrachlorophosphorus, with subsequent
treatment of the primary reaction products with water, gives phenacyl-
phosphonic acid and phenacylphenyl- and phenacylstyrylphosphinic acids.
The product of the reaction of α -methoxystyrene with phosphorus
pentachloride when treated with sulfur dioxide is converted into
 β -methoxystyrylphosphonic acid dichloride, which also gives phen-
acylphosphonic acid on hydrolysis with water.

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- 55 -

Therapy

USSR

UDC 616-006-092.08:615.849.19+615.847

KOZLOV, A. P., AKIMOV, A. A., and MOSKALIK, K. G., N. N. Petrov Institute of Oncology, Ministry of Health USSR

"Treatment of Experimental Tumors With Laser Radiation Combined With Fast Electrons"

Moscow, Voprosy Onkologii, No 6, 1973, pp 93-97

Abstract: In nonpurebred C57B1 and CC57W mice with transplanted Harding-Pasey melanoma, B₁₆ melanoma, and squamous cell carcinoma, laser radiation combined with fast electrons inhibited tumor growth to a much greater degree than did either agent alone. For example, the growth of the Harding-Pasey melanoma was inhibited 68 to 73% and 55 to 64% by laser radiation and fast electrons alone, respectively, but 90 to 92% when both agents were used. After transplanted Harding-Pasey melanomas were 5 to 6 mm in diameter, the average survival time of the animals exposed to laser rays combined with fast electrons was 92 days compared to 67 and 80 days after laser radiation and fast electrons alone, respectively. The survival time of the untreated controls was 56 days.

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USSR

UDC 616-006-08:615.849.19

KOZLOV, A. P., MOSKALIK, K. G., and AKIMOV, A. A., Institute of Oncology
imeni N. N. Petrov, Academy of Medical Sciences USSR

"The Antitumor Effect of Laser Radiation in Relation to the Pulse Energy and
the Radiation Rate"

Leningrad, Voprosy Onkologii, Vol 18, No 6, 1972, pp 65-70

Abstract. A neodymium laser with a wavelength of $10,600 \text{ \AA}$, and an energy density of $12,000, 25,000-28,000 \text{ joules/cm}^2$ was used for irradiation of Ehrlich's carcinoma, skin cancer, cancer of the pancreas and Harding-Passy melanoma. The pulse duration was 1 msec. with an energy output of 300, 700-750 joule. The growth inhibition of Ehrlich's carcinoma by 22-25% was achieved with 1-2 laser pulses of 700-750 joules energy. A lower energy level was ineffective. In the case of tumor of the pancreas blastoma growth was inhibited by 69% when irradiated with 4-8 laser pulses (1-2 pulses every other day) of 700-750 joules. The growth of Harding-Passy melanoma was inhibited by 63% after five treatments with 1-2 laser pulses, with 1-2 days intervals between treatments. Growth inhibition of skin cancer after three treatments with 1-2 laser pulses of 700-750 joules was only 15%. The best effects were obtained with a single treatment of pancreas cancer and Harding-Passy melanoma with 3-7 and 4-7 laser pulses, respectively, of 700-750 joules
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USSR

KOZLOV, A. P., et al., Voprosy Onkologii, Vol 18, No 6, 1972, pp 65-70

The tumor growth inhibition in these cases amounted to 63 and 76%, respectively. Energy density of 25,000-28,000 joule/cm² caused some skin damage. The anti-tumor effect of the laser was higher in the case of small tumors when it was possible to irradiate the entire affected area.

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Oncology

USSR

UDC 616-006.615.849.19

MOSKALIK, K. G., KOZLOV, A. P., and AKIMOV, A. A., Laboratory of High Energy,
Institute of Oncology imeni N. N. Petrov, Ministry of Health USSR

"Use of Lasers in Oncology"

Moscow, Voprosy Onkologii, No 8, 1972, pp 97-105

Abstract: It appears from this review of the Soviet and foreign literature that laser radiation cannot replace the ordinary methods of treating cancer. It is effective primarily for localized, surface neoplasms of a precancerous and benign nature. Promising results have been achieved in the treatment of squamous cell carcinoma of the larynx, pigmented and nonpigmented basal cell epitheliomas, some malignant lymphomas, epidermoid carcinoma of the penis, mycosis fungoides, small melanomas, papillomas, angiomas, hemangiomas, fibromas, nevi, and so forth. Disadvantages include possible dissemination of surviving viable tumor cells through the lymphatics and blood vessels and difficulty in determining and regulating doses. The effects of laser radiation can be potentiated by the use of dyes to promote absorption of the radiant energy by the tumors, chemotherapeutic agents to increase tumor sensitivity to laser rays (e.g., tetracycline, vitamin K, pyridoxine), and ionizing radiation.

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USSR

UDC 534.647

MOSKALIK, L. M., and RYADCHIKOV, V. Ye.

"A Low-Frequency Vibration-Measuring Apparatus"

Moscow, Vibratsion. Tekhnika (Vibration Engineering) 1972, pp 118-122 (from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya Tekhnika, No 1, 1973, Abstract No 1.32.441)

Translation: A 12-channel low-frequency vibration-measuring device, type 12EVA-5 has been developed for investigations of construction stability, which is intended for measuring and registering vibratory motion with amplitudes of 0.01-25mm with a frequency of 1.5-200cps at 12 points simultaneously. Like the 4EVA-4M apparatus developed earlier, it contains strain accelerometers and vacuum-tube amplifiers with a double integrated signal. The structural scheme of the vibration-measuring apparatus and its basic technical data are given. A miniature accelerometer, type V-6, with a silicon resistance strain-gauge glued on the flat, ring-shaped spring, is used in the 12EVA-5 apparatus. Due to the spring construction and the use of semiconductor resistance strain gauges the monitor has a low overall size and weight and a high sensitivity in comparison to monitors types V-3 and V-4. (2 illustrations)

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USSR

UDC 542.942:546.791.6'791.4

MOSKAL'KOVA, E. A., and TOLMACHEV, YU. M.

"Reduction of U_3O_8 to U_2O_5 by Aqueous Solution of U(IV) Sulfate"

Leningrad, Radiokhimiya, Vol 12, No 5, 1970, pp 758-762

Abstract: Experiments were carried out in a stream of nitrogen. TO about 3 g of U_3O_8 placed in a nitrogen-filled reaction vessel uranium (IV) sulfate solution was added. The contents were stirred for 1.5-2 hrs and then after about another 30 min the contents of U(IV), U(IV), and SO_4 were determined. It was found that oxides of the type $UO_{2.5}$ to $UO_{2.55}$ were formed. The structure of the oxide was also changed: the starting material was orthorhombic, while the products were hexagonal. It was shown that U(IV)-sulfate in aqueous solution is capable of reducing U_3O_8 to U_2O_5 . The reaction proceeds according to the equation: $2 U_3O_{8sol} + U_{aq}^{4+} + H_2O \rightarrow 3 U_2O_{5sol} + UO_{2aq}^{2+} + 2 H^+$.

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USSR

UDC 621.385.6:621.391.822

MOSKALYUK, V.A.

"Transformation Of Noise Of Transverse Waves Of Electron Stream In Variable Magnetic Field"

Vestn. Kiyev. politekhn. in-ta. Ser. radioelektron. (Bulletin Of The Kiev Polytechnical Institute. Radio Electronics Series), 1970, No 7, pp 41-44 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12A173)

Translation: The change is considered of the spectral density of the noise power of cyclotron and synchronous waves of an electron stream emerging from a cathode in a variable magnetic field. On the basis of an investigation by the method of bond waves of the interaction processes, the noise matrix elements are found as a function of the parameters of the magnetic field. It is shown that with a magnetic field which is slowly varied in space, the noise power of the cyclotron waves changes negligibly because of the passive connection with the synchronous waves. The expressions obtained make it possible to compute the noise factor of an electrostatic amplifier of fast cyclotron waves with an increased magnetic field at the cathode.
2 ref. Summary.

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USSR

UDC 519.2:62-50

IGNAT'YEV, M. B., MOSKATOV, G. K.

"On the Reliability of a Class of Self-Organizing Systems With Redundancy"

V sb. 4-y Simpozium po probl. izbytochn. v informatsion. sistemakh. Dokl.
Ch. 1 (4th Symposium on Problems of Redundancy in Data Processing Systems.
Papers. Part 1 -- Collection of Works), Leningrad, 1970, pp 273-283 (from
RZh-Matematika, No 10, Oct 70, Abstract No 10V170)

Translation: A self-organizing system constructed by the excess variable method is considered; the structure of the input flow relative to control conditions is analyzed; the random process of the development of states in the system is considered as semi-Markov, and expressions are found for the probability of the systems staying in a working state in both the presence and absence of failures in the control unit. Authors abstract.

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USSR

MOSKATOV, G. K.

"Testing of Automatic Systems as a Learning Process with External Correction"

Probl. Nadezhnosti Sistem Upr. [Problems of Control System Reliability -- Collection of Works], Kiev, Nauk. Dumka Press, 1975, pp 147-158
(Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V260)

Translation: The problem of combining dissimilar information in the estimation of system reliability is discussed. Various methods are presented for combining the results of tests. Calculation formulas and numerical data are presented.

I. Kovalenko

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MOSKATOV, Ye. P.

JPRS 55819
27 April 1972

MECHANICS: THE AGELESS SCIENCE

Article by Ye. P. Moskatov; Moscow, Nauka i zhizn', Russian, No. 2,
February 1972, pp 56-59

This article is the story of one of the outstanding scientific centers of our country, the Institute of Problems of Mechanics of the Academy of Sciences USSR. The sense of the words "problems of mechanics" is rich with many meanings. The movement of planets and artificial earth satellites, the rotation of a turbine rotor and a steering propeller, an explosion creating canals, and the destruction of materials by a laser beam, all this and much more, are studied in mechanics and are based on its laws.

The range of subjects which are worked on in sections and laboratories of the Institute is very broad. A discussion of the research being carried out here is given by the following: Director of the Institute, Hero of Socialist Labor, laureate of the Lenin Prize and State Prize, Academician A. Ya. Izhitskiy, scientific coworkers of the Institute: laureate of the Lenin Prize, Doctor of Physicomathematical Sciences, Professor Yu. P. Ryzantsev; candidates of technical sciences V. N. Kalashnikov and M. I. Yarushevskiy; and junior scientific coworker A. S. Bratus.

Special correspondent of the journal Nauka i zhizn' Ye. P. Moskatov leads the discussion.

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Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 2-70

243166 WALL SUPPORT FOR MAST HOIST comprising
rod connected to the mast and resting on
the building wall, and clamps, differing in having a
flexible tie passed through a system of pulleys
mounted on the rod and clamps, connected to a
tensing device, and fixed on it -in the working
position by a clamping plate. This simplifies
assembly -of the support, and its design. In the
process of assembly the clamps are first attached
to the wall through apertures. They can be set up
independently of the rest of the support, since
they can be readily detached from it by taking tie
13 off diverting pulleys 11 and 12. Rod 1 is then
fixed first by some temporary method to the mast
so that it can move along its axis. After the
flexible tie has been threaded by rotating bush-
nut 5, the assembler tightens it. The tie with
its tensed branches is fixed by clamping plate 19.

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This prevents the flexible tie running along the pulleys in the working position. The tension in the branches remains constant, and rod I is unable

to move in the plane perpendicular to the axis of the mast. After tensing the tie, the rod is finally fixed to the mast.

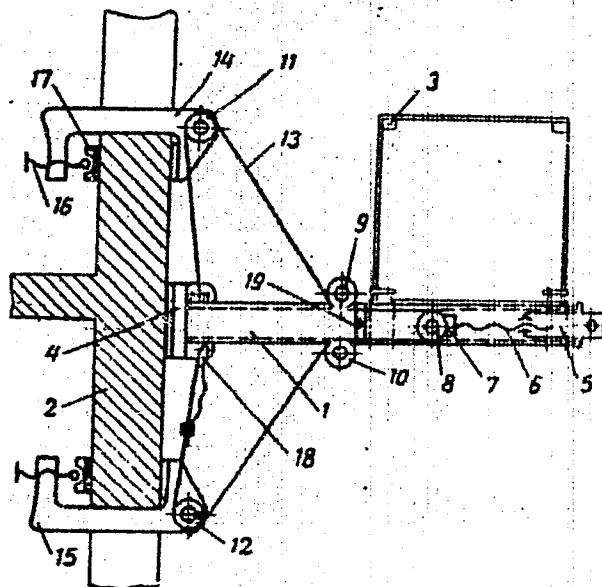
17.1.68. as 1210039/27-11, GALICHENKO, A.N. et al
Inst. For Building and Roadmaking Engineering.
(22.9.69) Bul. 16/5.5.69. Class 35d, Int. Cl.
B 66b.

Galichenko, A. N.; Mos'kin, A. N.; Feoktistov, G. N.; Gekht, A. Kh.
Usesoyuznyy Nauchno-Issledovatel'skiy Institut Stroitel'nogo i
Dorozhnogo Mashinostroyeniya

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Automatic Control: Instruments

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UDC: 681.325.65

PRANGISHVILI, I. V., POPOVA, G. M., USKACH, M. A., FETISOVA, S. V., MOSKOV, B. A., RUDERMAN, L. Z., KOPEYKIN, G. A., Institute of Automation and Remote Control (Technical Cybernetics)

"An Element of Homogeneous Structure"

USSR Author's Certificate No 287115, filed 11 Mar 69, published 18 Feb 71 (from NZh-Avtomatizatsiya. Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct 71, Abstract No 104109 P)

Translation: Elements are known which can be used as cells of homogeneous structure in addition to other applications. A multifunctional element used as a cell of homogeneous structure has the disadvantage that only the outputs are commutated in such an element, and the logic inputs are not commutated. This limits its functional possibilities: e. g., the cell cannot be used for high-speed homogeneous structures with feed-through current lines through which signals propagate with practically no delay (bus structures). For coupling to the lines, the cells must have commutable inputs and outputs: i. e., they must receive signals from the line and transfer signals to the line. In addition, in the case of external interference the information must be periodically transferred to the cell flip-flops to correct

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FRANGISHVILI, I. V. et al., Soviet Patent No 287115

failures which may occur. In a multifunctional logic circuit in the multiple-transfer mode, all flip-flops are preset to the zero state each time, regardless of the presence of failures. This interrupts the function being realized by the structure each time, which is a considerable disadvantage of the logic circuit. The purpose of this invention is to extend the functional possibilities and increase the speed of the homogeneous structure. In the proposed element, this purpose is achieved by redistributing the control circuit between the inputs and outputs of the element without increasing the total number of components: i. e., some of the inputs and outputs are made commutable, and some are not. Only the commutable inputs and outputs are used in connecting the element to the lines. In connecting the elements to one another, the noncommutable inputs of one element are connected to the commutable inputs of the other, and vice versa. Thus between any elements of the structure (between adjacent cells or between the cells and the lines) a controllable data transmission channel is formed which may be switched on or off depending on the debugging code. The circuit for setting and resetting the flip-flops is made in such a way that when information is being transferred, the flip-flops are set immediately to a predetermined state without presetting to the zero state in order to correct failures. This procedure makes it possible to use a logic cell in high-

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PRANGICHVILI, I. V. et al., Soviet Patent No 287115

-speed bus structures, as well as to improve the interference suppression of the structure by means of multiple transfer. One illustration.

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UDC 681.3.056

PRANGISHVILI, I. V., POPOVA, G. M., USKACH, M. A., FETISOVA, S. V., MOS-
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"An Element of Homogeneous Structure"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
1970, No 35, Soviet Patent No 287115, class 21, filed 11 Mar 69, published
19 Nov 70, pp 62-63

Translation: This Author's Certificate introduces an element of homogeneous structure which contains AND, OR, AND-NOT and NOT circuits, flip-flops, commutated inputs, noncommutated inputs, and inputs for horizontal and vertical tuning lines. As a distinguishing feature of the patent, the functional possibilities of the element are extended and the speed of the homogeneous structure is increased by connecting the inputs of the AND circuits for setting the flip-flops to one, to the horizontal and vertical tuning lines, while the inputs of the AND circuits for setting the flip-flops to zero are connected to the horizontal tuning lines, and through the NOT circuits to the vertical tuning lines. The outputs of the first two flip-flops are connected to the inputs of the OR circuits, which are

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PRANGISHVILI, I. V., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 35, Soviet Patent No 287115, class 21, filed 11 Mar 69, published 19 Nov 70, pp 62-63

also connected to the commutated inputs of the element. The outputs of these OR circuits are connected together with the noncommutated inputs of the element through an AND circuit to the input of a "mod 2 addition" circuit. Also connected to this addition circuit are the outputs of a third flip-flop. The outputs of the remaining flip-flops are connected to AND-NOT output circuits, whose inputs are also connected to the output of the "mod 2 addition" circuit and through a NOT element to one of the outputs of the structure element.

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UDC /547.965.582.951.4-145/:576.858.8

MOSKOVETS', S. M., and KUSHNIRENKO, O. A., Institute of Microbiology and Virology, Academy of Sciences Uk SSR

"Free Amino Acids and Amides in Leaves of Potato Plants Infected With Different Strains of X-Virus"

Kiev, Mikrobiologicheskii Zhurnal, Vol 33, No 4, Jul/Aug 71, pp 493-497

Abstract: The effects of three strains of potato X-virus (the Xs strain with high virulence, the "Kiev" strain Xk of medium virulence, and the Xr strain with low virulence) on the content of free amino acids and amides in leaves upon infection with these strains was studied. Plants of the potato variety Priyekul'skiy ranniy were studied. Xs virus reduced the content of cystine, arginine, proline, and tyrosine during its reproduction, while increasing the content of alanine, glutamic acid, and gamma-aminobutyric acid at the time of the most intensive development of infection. Xr strain did not alter the amino-acid composition of the non-protein fraction significantly vs. that of healthy plants except for a reduction in the content of cystine and sometimes of lysine. The total content of free amino acids was increased as compared with controls upon infection, to the greatest extent by Xr strain, followed by Xs strain and then Xk strain. All three strains reduced the

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